The adoption of chief diversity officers among S&P 500 firms: Institutional, resource dependence, and upper echelons accounts

Wei Shi | Seemantini Pathak | Lynda Jiwen Song | Robert E. Hoskisson

1Kelley School of Business, Indiana University, Indianapolis, IN 46202
2College of Business Administration, University of Missouri, St. Louis, MO 63121-4400
3Department of Organization and Human Resources School of Business, Renmin University of China, P. R. China, 100872
4George R. Brown Chair of Strategic Management, Jones Graduate School of Business, Rice University, Houston, TX 77252

Correspondence
Lynda Jiwen Song, Department of Organization and Human Resources, School of Business, Renmin University of China, Zhongguancun Street 59, Renmin University of China, Haidian District, P. R. China, 100872, Ph: 8610-82500529, Fax: 8610-82509169, Email: songjiwen@rbs.ruc.edu.cn

Funding information
Renmin University of China, Grant/Award number: 16XNKI008.

The importance of workforce diversity has become a salient management concern given that demographic minorities comprise key sources of the workforce and consumers. As a result, some firms created chief diversity officer (CDO) positions to manage workforce diversity. This study takes a multitheoretic approach, drawing upon institutional, resource dependence, and upper echelons theories to explain firms’ adoptions of this key position. Using Cox event history analyses based on a sample of S&P 500 firms, we find that, from an institutional theory perspective, firms are more likely to adopt CDOs when they are headquartered in legalized gay marriage states and the accumulative number of industry CDO adoptions is high. From a resource dependence perspective, we find that firm innovation intensity, diversification levels, transient institutional ownership, and industry female and African American employment bases can predict firms’ adoptions of CDO positions. From an upper echelons explanation, we find that female top management team representation is positively associated with firms’ adoptions of CDO positions.

KEYWORDS
diversity, innovation, institutional theory, leadership

The diffusion of chief diversity officers (CDOs) across large American corporations not only marks a milestone in firms’ commitment to workforce diversity but also attests to their willingness to invest in it (Robinson & Dechant, 1997; Yang & Konrad, 2011). The Wall Street Journal points out that over 60% of Fortune 500 firms have a CDO of some kind, and several of these CDOs are senior-level executive leadership positions reporting directly to the chief executive officer (CEO) (Kwoh, 2012). They are not only directly responsible for workforce diversity and inclusion but also play an important role in leveraging human talent with diverse backgrounds, attaining benefits associated with workforce diversity (e.g., enhanced creativity), and enabling a better understanding of changing demographic trends (Dexter, 2010). In addition to designing and leading diversity programs and providing diversity consulting service to other business functions, CDOs also play a critical role in “orchestrating the change that will lead to a new business culture” (Dexter, 2010, p. 4). Armed with significant budgets and supported by high-caliber staffs, CDOs are no longer powerless diversity promotion managers, but play a role in shaping employee and business performance (Hewlett, 2007).

Despite the important role that CDOs can play now, two decades ago, human resource managers in charge of workforce diversity often resided at the bottom of corporate pyramids and did not have promising career opportunities to pursue (Dexter, 2010). What is behind the dramatic rise of workforce diversity managers from lower-level “bean counters” to senior executives and the recent diffusion of CDOs among US firms? Although diversity initiatives in general are thought to provide a number of benefits to the company’s image and bottom line, including lower employee turnover, higher creativity and innovation, and better business opportunities (Robinson & Dechant, 1997; Yang & Konrad, 2011), firms still differ greatly in the incidence of the adoption of this senior executive position.

The addition of a CDO position to the firm’s senior management team represents a significant structural change. Most CDOs either...
belong to the top management team (TMT, reporting to the CEO) or report to a TMT member. Creating or upgrading a function-specific organization around a new senior position not only requires investment of people, money, and time but also involves setting up priorities, goals, channels of communication, and organizational routines that mesh well with the rest of the organization. Thus, it is worthwhile studying the circumstances under which firms would be motivated to expend the substantial effort involved in adopting a new senior management position. Recent research suggests that companies are likely to incorporate a new functional top management position in response to function-specific task demands, and in order to create a good fit between their organizational structure and conditions within the firm as well as in its external environment (Hambrick & Cannella, 2004; Menz, 2012; Menz & Scheef, 2014; Nath & Mahajan, 2008).

Although studies on the presence of functional TMT members like chief operating officers, chief marketing officers, and chief strategy officers have focused on efficiency explanations (Hambrick & Cannella, 2004; Menz & Scheef, 2014; Nath & Mahajan, 2008), we suggest that for the decision on incorporating the CDO position, motives of legitimacy are as important as those of efficiency. Moreover, given the highly charged nature of diversity issues, powerful interests within the firm are likely to weigh in to influence firms’ adoption of the CDO. Prior research (e.g., Cooke, 2014; Farndale & Pauwwe, 2007; Garavan, Cross, Wilson, & Carbery, 2012; Kang & Yanadori, 2011; Lynall, Golden, & Hillman, 2003; Peng, 2004; and several others) has used multiple theoretical approaches to address issues regarding strategic human resource management and organizational governance. We follow such research and adopt a multitheoretic approach to understand why firms may choose to adopt the CDO position. In doing so, we acknowledge that firms may have various reasons to emphasize diversity in their strategies and operations. Focusing on a single theoretical perspective, particularly while studying a relatively new phenomenon, presents only a partial view of the world (Douma, George, & Kabir, 2006). The use of multiple theoretical perspectives can lead to a better understanding of this organizational decision (Pfeffer, 1981). Indeed, Menz (2012), in a call for greater research on senior functional managers, recommends integrating multiple theoretical lenses to study the incidence of such roles.

We draw upon the following three theories to explain the adoption of the CDO position among S&P 500 firms, institutional theory, resource dependence theory, and upper echelons theory, each of which has been used to study organizational practice adoption (e.g., Chuang, Church, & Ophir, 2011; Damanpour & Schneider, 2006; Farndale & Pauwwe, 2007; Hannon, Huang, & Jaw, 1995; Taylor, Beechler, & Napier, 1996; Yang & Konrad, 2011). Institutional theory is the most prominent theory used to explain the adoption of organizational practices (Chuang et al., 2011; Tolbert & Zucker, 1983). It suggests that organizations seek legitimacy by conforming to coercive, mimetic, and normative pressures exerted by forces external to the firm (DiMaggio & Powell, 1983). Resource dependence theory goes beyond legitimacy to point out that structural changes can help the firm become more efficient by managing its dependence on crucial internal as well as external stakeholders (Pfeffer & Salancik, 1978). At the same time, upper echelons theory draws attention to pressures from powerful internal actors by explaining how demographic attributes of a firm’s top managers and directors can explain its strategic choices (Hambrick & Mason, 1984).

We believe that this study can make two major contributions. First, by integrating different theoretical perspectives, we offer a more comprehensive explanation regarding the CDO adoption. We suggest that firms face several drivers of adoption simultaneously, leading to variance in their adoption of this top management position. In this manner, we also contribute to the limited research on firms’ adoption of new functional top management team positions (Menz, 2012). Second, findings from this study can shed fresh light on workforce diversity research. By unpacking antecedents to CDO adoption, this study enriches our insights into why firms vary in terms of their investment in workforce diversity.

1 | THEORY AND HYPOTHESIS DEVELOPMENT

1.1 | Workforce Diversity and the Rise of Chief Diversity Officers

Historically, human resource departments had been in charge of workforce diversity, and managers responsible for workforce diversity were considered as having few career options, often with negative connotations associated with them (e.g., Anand & Winter, 2008). The marginalized role of diversity officers can be succinctly captured by the following quote:

> It was often an obscure role far down in the HR (human resources) organization or otherwise occupied some anomalous and essentially powerless positions on the org chart. Some organizations put people into the diversity role who had no previous experience, or people whose careers were in decline, or someone who happened to be a visible minority with a passion for diversity. Often, they were placed in an affirmative action or EEO (equal employment opportunity) role. Diversity strategies were not tied to business results and diversity professionals were not expected to be strategic business partners or demonstrate strong business acumen. (Dexter, 2010, p. 3)

However, changing social, economic, and demographic forces led to the rising importance of workforce diversity (Robinson & Dechant, 1997). Results from a survey study show that investment in workforce diversity not only can utilize talents more effectively and enhance marketplace understanding but also can increase creativity and improve team problem-solving quality (Dechant, 1995). As a result, firms have adopted various diversity-related corporate policies and programs to reap diversity premiums (Dobbin, Kim, & Kalev, 2011). For example, some companies use equal opportunity advertising to attract racially diverse and minority talent. Others launch diversity-training programs for managers to ensure equality in hiring and promotion. Diversity taskforces are also established to encourage
new proposals for creating equal opportunities for women and minorities (Dobbin et al., 2011).

Standard and Poor’s 500 firms (S&P 500) constitute an interesting context for examining the diffusion of CDO positions because they are a group of large, visible, and prominent firms. Specifically, in this study, we focus on firms that had been listed in the S&P 500 Index from 1995 to 2010, leading to an original sample of 957 firms. Extensive archival data research and direct contact with sample firms show that 198 out of the 957 firms had adopted CDO positions by July 2012. Figure 1 portrays the number of CDO adoptions per year as well as the accumulative number of CDO adoptions.

Williams and Wade-Golden (2007) assert that the CDO’s primary duty is to “conceptualize, define, assess, nurture and cultivate diversity.” Within this broad mandate, CDOs can have considerable latitude to focus on specific objectives. For instance, CDOs at companies like General Electric and Johnson & Johnson have put in place several initiatives to manage the pipeline of female and minority employees and leverage their talent (Hewlett, 2007). However, managing diversity goes beyond employee issues. For instance, IBM and Novartis Pharmaceuticals emphasize the importance of marketing to a diverse customer base, as well as ensuring a strong presence of minority-owned and female-owned businesses among their supplier networks (DiversityInc, 2016). Companies that have made diversity a priority also actively manage their relationships with advocacy groups (IBM Inc., 2015). A senior CDO not only bears primary responsibility for all diversity-related areas and tasks but also brings a new perspective to the TMT and can coordinate diversity initiatives with the organization’s strategic needs to source talent as well as foster relationships with customers and other important stakeholders.

Although the adoptions of CDO positions can greatly enhance workforce diversity and its benefits, firms may be at a sharp variance in terms of their willingness to establish such new organizational positions. By its very nature, structural change, such as the incorporation of a new functional top management team position, can give rise to increased administrative and bureaucratic costs (Taylor, 2004). The short-term orientation of investors and financial analysts motivates firms to focus their attention on short-run financial performance and to prioritize investment that can generate immediate benefits (Laverty, 1996); however, paybacks from workforce diversity investment require a long period to realize and do not yield tangible results such as those arising from investment in research and development (Robinson & Dechant, 1997). Hence, firms are only likely to adopt a CDO position if doing so would allow them to increase legitimacy, improve efficiency, change the corporate culture, increase control over external resources and external actors, and so forth in response to diversity-specific pressures (Menz, 2012; Nath & Mahanjan, 2008).

At any given time, firms face a number of varying and often competing pressures. In this sense, by unpacking antecedents to CDO adoptions, this study can enrich our insights into what factors drive the variation among firms’ differential investment in workforce diversity. Our theoretical model explains how forces external to the firm (institutional pressures), crucial stakeholders that control important resources (resource dependence issues), as well as powerful actors within the firm (upper echelons), motivate firms to adopt CDO positions.

From the institutional theory perspective, the adoption of CDO positions is mainly driven by external isomorphic pressures. As suggested by Meyer and Rowan (1977), many formal organizational structures represent adherence to formal and informal institutional rules. In this sense, the establishment of CDO positions is an outcome of succumbing to institutional pressures and/or of endeavors to gain legitimacy. However, although conformity to institutional environments can give rise to “positive evaluation, resource flows, and therefore survival chances” (Zucker, 1987, p. 445), it can also simultaneously reduce efficiency if the adoptions of new practices are merely designed for symbolic purposes (Zucker, 1987).

In contrast, resource dependence theory focuses on structural and organizational changes that have the very practical goal of attenuating firms’ dependence on key external and internal actors and reducing their exposure to environmental uncertainty. From the lens of resource dependence theory, the adoption of CDO positions represents firms’ efforts to maximize efficiency and to enhance their ability to cope with uncertainty (Pfeffer & Salancik, 1978). Going beyond institutional theory’s focus on external pressures, resource dependence theory mainly concentrates on deliberate actions undertaken by firms to win over or increase control in their relationships with critical resource-providing internal and external stakeholders (Spell & Blum, 2005). That is, firms make strategic decisions to shape their relationships with stakeholders instead of passively yielding to isomorphic forces. Thus, firms that are dependent on diversity-valuing stakeholders are more likely to invest in a strong diversity management function headed by a CDO.

Despite their distinct focuses, it can be difficult to separate resource dependence explanations from institutional theory explanations in some cases (Zucker, 1987). For example, on the one hand, the logic of institutional theory suggests that firms adopt CDO positions to manifest their compliance with dominant regulators and to attain legitimacy. On the other hand, the logic of resource dependence theory posits that firms depend on government regulators in one way or another and failure to comply can result in disruption by governmental mandates (DiMaggio, 1983). However, neither institutional theory nor resource dependence theory pays much attention to the characteristics of organizational leaders in influencing new practice diffusion, although

**FIGURE 1** Adoption of chief diversity officers among S&P 500 firms* (1995–2012).*Among 957 sample firms, 198 firms had adopted chief diversity officers between 1995 and 2012 (by July) and four adoptions occurred before 1995.
upper-echelons directly make new practice adoption decisions. At the same time, powerful upper-echelons that embody diversity are likely to provide strong internal pressure and support in favor of making diversity management an important element of the firm’s strategy.

1.2 | Institutional Accounts of Adoption of CDO Positions

Institutional theory has been widely used to examine the adoption of new practices. For example, Sanders and Tuschke (2007) adopted an institutional perspective to investigate the diffusion of institutionally contested stock option pay in Germany. Spell and Blum (2005) integrated institutional and strategic choice theories to investigate what factors influence firms’ adoptions of loss prevention programs. Rao and Sivakumar (1999) used institutional theory to examine the establishment of investor relations departments in Fortune 500 companies. Three mechanisms can institutionalize new practices: coercive, mimetic, and normative (DiMaggio & Powell, 1983; Scott, 2001). Coercive isomorphism traces back to political influence and legal environments because failure to abide by laws and regulations not only can adversely affect organizational legitimacy but also can give rise to legal sanctions. Mimetic isomorphism induces organizations to adopt practices of other similar organizations; faced with high levels of uncertainty, they mimic others to cope with uncertainty in the external environment. Normative isomorphism concerns organizations’ intentions to satisfy sociocultural expectations (Scott, 2001). To examine institutional accounts of CDO diffusion, we focus on coercive and mimetic isomorphic mechanisms.

The tenets of institutional theory suggest that organizations adopt new practices to attain legitimacy, in turn facilitating their ability to obtain needed resources and gain support from external environments (Meyer & Rowan, 1977; Zucker, 1987). From an institutional perspective, the adoption of CDO positions may lead stakeholders to perceive that focal firms are strongly committed to workforce diversity. Such perceptions are crucial in creating legitimacy as firms with CDO positions may be considered as role models of promoting workforce diversity and hence be endorsed by dominant institutional actors.

1.2.1 | Coercive Pressures

The coercive force of dominant external organizations can exert a strong influence on the diffusion of new practices (DiMaggio & Powell, 1983). Specifically, regulatory environments serve as crucial coercive mechanisms that guide organizations to adopt new practices. In the United States, states vary from each other in terms of employment and discrimination laws and regulations (Newburry, Gardberg, Hudson, & Feffer, 2012). Such a variation in regulatory environments can influence firms’ likelihood of adopting new practices. For example, Chuang et al. (2011) found that the existence of pro-gay state laws was positively associated with firms’ likelihood of adopting same-sex partner health benefits.

As civil rights and women’s rights movements led all the states in the United States to pass laws against gender and racial discrimination, state-level regulatory environments do not differ from each other significantly in protecting the rights of women and racial minorities. However, states are at a great variance in terms of enacting nondiscrimination laws regarding gay and lesbian rights (Chuang et al., 2011). Because how society views homosexuality attests to its commitment to equality (Inglehart & Norris, 2003), we contend that states that have legalized gay marriages may represent different regulatory environments from those that have not done so. Furthermore, as the protection of same-sex orientation employee rights is a crucial component of organizational diversity (Thomas, 2004), firms headquartered in legalized gay marriage states may be subject to higher levels of coercive pressures from regulators and key stakeholders to espouse and invest in workforce diversity. Consequently, such firms are more likely to establish CDO positions to demonstrate their commitment to workforce diversity so as to attain regulatory legitimacy (Suchman, 1995).

Hypothesis 1: Firms headquartered in states that have legalized gay marriages are more likely to adopt CDO positions than those not headquartered in such states.

1.2.2 | Mimetic Pressures

The adoption of CDO positions can also occur through the emulation of other firms (DiMaggio & Powell, 1983). The mimetic mechanism suggests that when organizations encounter contradicting institutions and face uncertainty, behaviors of other organizations provide a cognitive foundation and model (Scott, 2001). Such a cognitive model is further enhanced when the number of organizations adopting new practices increases (Chuang et al., 2011), creating a strong incentive for focal organizations’ adoptions of new practices. Put differently, as new practices gain adherents, the associated legitimacy facilitates further adoptions (Meyer & Rowan, 1977). Hence, as the accumulative number of CDO adoptions increases in an industry, firms become subject to mimetic isomorphic pressures, leading them to adopt CDO positions as well.

Hypothesis 2: The greater the number of CDO adoptions in a focal firm’s industry, the more likely such a firm is to adopt a CDO position.

1.3 | Resource Dependence Accounts of Adoption of CDO Positions

Resource dependence theory asserts that organizations intentionally act to reduce external uncertainty, attain resources crucial to their survival, and strengthen control over critical resources (Pfeffer & Salancik, 2003). Differing from institutional theory, resource dependence theory stresses that organizations do not passively conform to institutional isomorphic pressures but can manipulate their interdependencies with internal and external parties by exercising power and control (Oliver, 1991). In particular, they may try to win over and get support from critical stakeholders through organizational and structural changes (Hillman, 2005; Hillman, Withers, & Collins, 2009; Lynall et al., 2003). Building on resource dependence theory, Spell and Blum (2005) argued that the adoption of new organizational programs and structures could be shaped by managers’ attempts to maximize efficiency and to align environmental needs with organization...
capabilities. Put differently, the adoption of new practices stems from executives’ strategic choices based on evaluating internal and external needs. In this sense, resource dependence theory departs from institutional theory by emphasizing the role of organizations’ intentional maneuvers and manipulations in adopting new practices.

1.4 | Female and Racial Minority Employment Base

Current and potential employees are important categories of stakeholders, and hence the labor pool characteristics of an industry are likely to affect the salience of establishing CDOs and committing to workforce diversity. Firms in industries employing a large number of women and racial minorities need to attract and retain female and racial minority talents (Hillman, Shropshire, & Cannella, 2007). Such firms can garner more benefits from investing in workforce diversity and adopting CDO positions. By increasing their credibility and legitimacy with their labor pool, they would be able to manage this source of dependency better (Hillman et al., 2007).

With regard to racial minorities, we mainly focus on the employment bases of African Americans in an industry because compared with other racial minorities (e.g., Asian Americans and Hispanic Americans), both mass media and the general public have dedicated greater attention to racism events involving African Americans (Bonilla-Silva, 2010). Therefore, firms are motivated to pay greater heed to managing their relations with African American employees than other racial minorities. In sum, for firms operating in industries featured with high levels of female and racial minority workers, they are more likely to invest in workforce diversity because failure to do so can impair employee relations and firms’ reputations with important external constituents.

Hypothesis 3a: The greater the female employment base of the industry that a firm belongs to, the more likely such a firm is to adopt a CDO position.

Hypothesis 3b: The greater the African American employment base of the industry that a firm belongs to, the more likely such a firm is to adopt a CDO position.

1.4.1 | Innovation Intensity

Firms that value innovation are concerned with maintaining the pace and level of innovation through nurturing employee creativity, knowledge development and sharing, and teamwork. As an innovation-focused strategy potentially has substantial costs and risks (Li & Atuahene-Gima, 2001), firms that engage in it are highly dependent on key groups of employees (Balkin & Bannister, 1993) and hence more likely to carefully design human resource practices so as to influence the employees’ interactions, behaviors and motivation (Collins & Smith, 2006). In particular, the promotion and effective management of workforce diversity not only facilitates the attraction and retention of qualified talents with diverse backgrounds but also increases organizations’ information processing abilities (Milliken & Martins, 1996). Research (Cox, Lobel, & McLeod, 1991; Watson, Kumar & Michaelson, 1993) has shown that diversity in observable attributes (e.g., ethnicity and nationality) has a positive relationship with desirable cognitive outcomes (e.g., decision comprehensiveness and idea quality). The potential cognitive benefits of workforce diversity can be attributed to the positive association between group diversity and creativity (Hoffman & Maier, 1961; Nemeth, 1986). However, it is crucial to manage diversity effectively as it can also lead to negative outcomes such as workplace conflict (Kochan et al., 2003; Pelled, 1996). In other words, workforce diversity, if managed effectively, can lead to higher decision quality and creativity (Milliken & Martins, 1996). While much resource dependence research has focused on how firms reduce their dependence on external constraining factors (Hillman et al., 2009), Wry, Cobb, and Aldrich (2013) argue that resource dependence theory also recognizes the importance of increasing efficiency through managing the dependence on internal stakeholders (in addition to external parties).

Although the establishment of CDO positions is conducive for promoting creativity through increased workforce diversity and attracting minority talents, the adoption of diversity programs and CDO positions can be financially costly and detrimental to firm short-term financial performance. However, for innovation-intensive firms, the establishment of CDOs is beneficial in helping to manage their resource dependence on strategic employee groups, thereby gaining a competitive edge in winning talent wars and stimulating employees’ creativity, as well as reducing the high risks associated with innovation activities. We thus hypothesize the following:

Hypothesis 4: The higher a focal firm’s innovation intensity, the more likely such a firm is to adopt a CDO position.

1.4.2 | Firm Diversification

Resource dependence theory suggests that firms operating in multiple product-market environments face higher levels of external uncertainty than those operating in a single product-market environment because the former must interact with and pacify various stakeholders in multiple environmental contexts (Hillman et al., 2007). This can leave the diversified firm vulnerable to greater environmental complexity and potentially competing stakeholder demands (Wry et al., 2013). In such a context, the creation of a CDO position can help diversified firms to build and leverage within-firm diversity in order to gain from a wider range of perspectives and to forge extensive ties with external constituents (Hillman et al., 2007).

For instance, with increasingly diverse consumer markets, firms need to sharpen their understanding of different market segments and niches to gain a competitive edge in fierce business competition (Robinson & Dechant, 1997). The creation of a CDO position can help firms improve their marketing capabilities to demographic niches given that when marketers share consumers’ cultural backgrounds, marketing effectiveness increases (Burton, 2000). In addition, the establishment of CDOs can win goodwill from customers as the emphasis on diversity sends a positive signal to customers that focal firms espouse the value of equality (Robinson & Dechant, 1997). In sum, the appointment of CDOs can help highly diversified firms enrich their insights into and ties with multiple stakeholders and thereby reduce their exposure to environmental complexity and uncertainty to which a multiproduct firm would be exposed.
Hypothesis 5: The higher the level of a firm’s diversification, the more likely such a firm is to adopt a CDO position.

1.4.3 Institutional Ownership

Institutional investors have become a dominant force in the US economy as they manage over 70% of the ownership in large US firms (Gillan & Starks, 2007). However, institutional investors differ among themselves in terms of investment horizons and trading strategies. Institutional investors have been categorized into dedicated institutional investors and transient institutional investors (Bushee, 1998; Connelly, Tihanyi, Certo, & Hitt, 2010). Dedicated institutional investors maintain large equity holdings in a few firms for extended investment horizons, whereas transient institutional investors possess portfolios of diverse equity holdings and have short-term investment horizons (Bushee, 1998).

Through their provision of equity to the firm and attendant voting rights, institutional investors have become crucial resource-providing stakeholders for most firms, and resource dependence research shows that firms engage in specific strategic actions to appease them (e.g., Certo, 2003; Higgins & Gulati, 2006; Johnson & Greening, 1999). Thus, executives intend to actively manage their interdependency with institutional investors by adopting strategies favored by the latter (Connelly et al., 2010). Incorporating a CDO position into the top management team sends a clear and strong signal to diversity-valuing investors that the firm is serious about nurturing and leveraging diversity. However, institutional investors may differ in the importance they place on diversity. Research has found that firms with high levels of short-term-oriented investors are less likely to make contributions to local communities, hire women and minorities, and improve employee relations because such endeavors not only cannot generate short-term profits but instead can be detrimental to immediate financial performance (Johnson & Greening, 1999). In contrast, firms with high levels of long-term-oriented investors are more likely to adopt long-term strategies and to make investments in community development and relations with women and minority workers (Johnson & Greening, 1999). Given that establishment of CDOs cannot generate enormous immediate benefits but can hurt firm short-run performance, we contend that the presence of high-level transient institutional ownership bears a negative relationship with firms’ adoptions of CDO positions while the presence of high-level dedicated institutional ownership has a positive association with firms’ adoptions of CDOs.

Hypothesis 6a: The higher the percentage of transient institutional ownership a focal firm has, the less likely such a firm is to adopt a CDO position.
Hypothesis 6b: The higher the percentage of dedicated institutional ownership a focal firm has, the more likely such a firm is to adopt a CDO position.

1.5 Upper Echelon Accounts of Adoption of CDO Positions

Upper echelons theory asserts that the cognitions, values, and perceptions of executives can influence their strategic choices and resultant firm performance (Carpenter, Geletkanycz, & Sanders, 2004; Hambrick & Mason, 1984). The key argument of upper echelons theory is that top managers, constrained by bounded rationality, are subject to cognitive biases associated with demographic characteristics and behavioral propensities when processing information (Hambrick, 2007). Scholars have documented the role of upper echelons in affecting firms’ adoptions of new management practices. For example, Sanders and Tuschke (2007) found that CEO education backgrounds provide partial explanations for firms’ adoptions of institutionally contested stock options in Germany and Fiss and Zajac (2004) argued that CEO education backgrounds and age could predict German firms’ implementation of shareholder-value orientation programs. In this study, we focus on examining how board racial and top management team gender diversity influence the likelihood of firms’ CDO adoptions.

1.5.1 Minority Director Ratio

Boards of directors not only play a critical role in monitoring managerial behaviors and providing resources for firms (Hillman & Daanz, 2003) but also exert a strong influence on firm strategic decisions (Westphal & Fredrickson, 2001). Therefore, board directors are often included in the rank of upper echelons (Finkelstein, Hambrick, & Cannella, 2009). Minority directors are in a powerful position to advocate for greater diversity management measures and ideally placed to influence other directors as well as top managers. Moreover, research shows that the presence of minority directors has a positive effect on group-level cognitive outcomes, leading to more cooperation and quality ideas (Cox et al., 1991; McLeod & Lobel, 1992). Thus, boards featured with a large number of minority directors are more likely to realize the benefits and importance of workforce diversity, giving rise to a higher likelihood of adopting CDO positions in such firms.

Hypothesis 7: The higher a focal firm’s minority director ratio, the more likely such a firm is to adopt a CDO position.

1.5.2 Female TMT Representation

We submit that female top management team representation would bear a positive relationship with firms’ adoptions of CDOs, for three reasons. First, possible challenges and difficulties that female top managers have encountered in moving up the corporate ladder enable them to know which areas to place more emphasis in to create an equal environment for gender and racial minorities (Dobbin et al., 2011). Second, female top managers are more likely to identify themselves as social minorities (Cohen & Huffman, 2007) and therefore dedicate efforts to promoting minority rights. Third, women leaders are likely to be persuasive and influential, given the research (Dezso & Ross, 2012) suggesting that female top managers differ from male top managers in their behavioral tendencies to be less hierarchical but more collaborative (Book, 2000; Helgesen, 1990). Similarly, Rosener (1995) found that women managers demonstrated a more interactive leadership type and showed higher tendencies of inclusion. In this sense, female top managers are more likely to embrace diverse ideas and opinions and value the importance of
workforce diversity. Indeed, Dobbin et al. (2011) find that female representation in management positively affects firms’ adoptions of workforce diversity programs. In sum, high female TMT representation may lead firms to focus more attention on workforce diversity, leading to a higher probability of adopting CDO positions.

Hypothesis 8: The higher a focal firm’s female representation in the top management team, the more likely such a firm is to adopt a CDO position.

2 | METHODS

2.1 | Sample

As noted, sample selection began with identification of all the firms that had been included in the S&P 500 Index from 1995 to 2010, leading to an original sample of 957 firms. We excluded 26 firms that are not headquartered in the United States. We also excluded 21 firms that had not been publicly traded for at least five contiguous years during our sample period. The final sample consisted of 910 firms. We chose S&P 500 firms for two reasons. First, S&P 500 firms cover around 75% of the American equity market by capitalization and are important in nature. Second, given that S&P 500 firms are a group of large companies, their adoptions of CDOs are highly visible and are more likely to be covered by the media, allowing us to better identify CDO adoption time. Among our sample firms, 18% belong to consumer durables, nondurables, wholesale, retail, and services industries; 26% belong to manufacturing, energy, and utilities industries; 7% belong to health care, medical equipment, and drug industries; and the rest belong to other industries. The archival data used in this study are from multiple sources. We obtained CDO adoption data from searching news and firm disclosure. Firm financial data are from Compustat. Firm governance data are from ExecuComp and RiskMetrics. Firm ownership data are from Thomson Reuter 13F. We used Bureau of Labor Statistics data to identify the percentage of employees who were women or African American in each industry category. Female and African American employment bases for each industry were measured by using the ratio of total numbers of female and African American employees to the total number of employees in that industry.

2.2 | Measures

2.2.1 | Adoption of CDO Position

The dependent variable of interest in this study was coded as an indicator variable, CDO adoption, to designate whether a firm had adopted a CDO position in a year. Multiple sources (such as Factiva and LexisNexis Academic) were used to collect whether a firm had established a CDO position. Because many firms have different title names for CDO positions, the following terms were used in combination with sample firm names when conducting the research: chief diversity officer, chief diversity and inclusion officer, global diversity officer, corporate vice president of human resources, chief people officer, vice president of global workforce diversity, and vice president of diversity and inclusion. The research results show that of the sample firms, 198 had established CDO positions by July 2012. Four adoptions occurred prior to 1995 and four adoptions happened in 2012 (by July). After excluding these censored events, our final data had 190 CDO adoption events.

2.2.2 | Institutional Account Independent Variables

We have two variables regarding institutional accounts on CDO adoptions. Legalized gay marriage states is an indicator variable that receives a value of “1” if a state has legalized gay marriages by a given year and “0” otherwise. Industry peers’ adoption of CDO positions was measured by counting the cumulative number of adoptions of CDOs by other firms within the same industry by a given year (based on two-digit Standard Industrial Classification [SIC] codes).

2.2.3 | Resource Dependence Account Independent Variables

Innovation intensity was measured as the ratio of research and development expenditure to total sales revenues (Baysinger & Hoskisson, 1989). Firm diversification level was measured through the widely used entropy method (Palepu, 1985). We use industry-adjusted firm diversification to measure this predictor. We followed Bushee (2001) to classify institutional investors into dedicated and transient institutional investors. Dedicated institutional ownership was measured as the ratio of total dedicated institutional investor ownership in the third quarter of a year to total shares outstanding for that quarter. We operationalized transient institutional ownership in a similar manner. The data on institutional investors were from the Thomson Reuters Institutional (13F). We used Bureau of Labor Statistics data to identify the percentage of employees who were women or African American in each industry category. Female and African American employment bases for each industry were measured by using the ratio of total numbers of female and African American employees to the total number of employees in that industry.

2.2.4 | Upper Echelon Account Independent Variables

Minority director ratio was measured as the ratio of the number of African American directors, Hispanic directors, and Asian directors to board size. We summed the percentage of female top managers and the percentage of female board directors to measure female TMT representation.

2.2.5 | Control Variables

In addition to the main effect variables, we included a number of organizational and upper echelon variables to rule out other alternative explanations for CDO adoptions. We controlled for firm performance by using return on assets (ROA), as firms with good performance are more likely to have the resources to invest in diversity programs and establish CDO positions. Firm size was also controlled for by using the natural logarithm of total assets because large firms tend to have more resources to adopt new organizational practices and attract more attention from the media and public, facilitating such firms’ adoptions of CDOs. We also controlled for firm visibility by using advertising expense ratio (Grullon, Kanatas, & Weston, 2004) because highly visible firms are more motivated to adopt CDO positions to gain goodwill from key stakeholders. We used the
ratio of advertising expenses to sales revenue to measure firm visibility.

We controlled for organizational slack. Singh (1986) argued that slack consists of absorbed slack and unabsorbed slack. Absorbed slack refers to slack that has been absorbed as costs in organizations whereas unabsorbed slack concerns the amount of uncommitted liquid resources. Because low levels of absorbed slack may constrain firms from investing in workforce diversity programs and adopting CDOs, we controlled for absorbed slack by using the ratio of the levels of selling, general, and administrative expenses and working capital to sales revenues (Singh, 1986). We also controlled for unabsorbed slack by using the current ratio (total current assets divided by total current liability) (Singh, 1986) because firms with high unabsorbed slack would have more resources to invest in diversity.

We included three upper echelon–level control variables. Average age of top executives was included as a control because younger executives are less conservative than older executives and more likely to attempt new and unprecedented practices (Hambrick & Mason, 1984). We controlled for the ratio of outside directors to the total number of directors because outside directors can serve as important information and resource channels for focal firms (Hillman & Dalziel, 2003). Consequently, a high outside director ratio may increase firms’ likelihood of adopting CDO positions. We controlled for CEO long-term compensation by using the ratio of a CEO’s stock options and other long-term compensation to his or her total compensation, as CEO compensation structure has been found to influence CEOs’ investment horizons (Devers, McNamara, Wiseman, & Arrfelt, 2008; Sanders, 2001; Sanders & Carpenter, 1998).

Finally, we controlled for competitive pressures because firms facing a high level of external pressures are less likely to adopt new organizational practices that cannot generate immediate financial benefits. We used the four-firm concentration ratio to capture industry concentration, which was measured as the sum of the market shares of the four firms with the largest market shares in an industry. As firms in a highly concentrated industry are more likely to face a lower level of competitive pressures, we reverse-coded industry concentration to measure competitive pressures.

2.3 | Models

The independent variable is binary and time-related. Therefore, we used event-history analysis models to test our hypotheses. Specifically, Cox models were applied where the hazard rate of adoption was modeled as the product of a specific baseline hazard rate and an exponential function of independent and control covariates. The reason that we chose the Cox model is that the Cox model allows researchers to estimate the effects of parameters without specifying the hazard function (Cox, 1972). The general form of this model is:

\[ h(t) = h_0(t) \exp(\beta X) \]

where \( h(t) \) is the hazard rate of adoption at time \( t \), \( h_0(t) \) is the unspecified baseline hazard function, and \( \beta \) is the regression coefficients of independent variables. The coefficient is interpreted as the multiplicative effects on the hazard, which means a unit increase of covariate \( X \) will lead to \( \exp(\beta) \) change of the hazard, holding other covariates constant. We used the Huber-White method to yield more robust and consistent standard errors as potential existence of heteroskedasticity may bias our significance tests. In addition, we lagged all the independent and control variables one year prior to our dependent variable—CDO adoptions.

3 | RESULTS

Table I provides means, standard deviations, and correlations for variables used in our study. We tested for multicollinearity by running OLS regressions to generate variance inflation factors (VIFs). We found that none of the VIFs exceeded 3, a value well below the accepted maximum of 10 (Chatterjee & Price, 1991). Table 2 shows the results obtained from Cox event-history analysis models. Model 1 includes all the control variables. The coefficients of firm size and CEO long-term compensation are positive and statistically significant, suggesting that large firms and CEOs whose long-term interests are embedded in firms are more likely to adopt CDO positions. The coefficient of competitive pressures is negative and statistically significant, indicating that firms facing a high level of competition are less likely to adopt CDOs.

Model 2 includes all the independent variables. Hypothesis 1 predicts that firms headquartered in states that have legalized gay marriages are more likely to adopt CDOs. The coefficient estimate of legalized gay marriage states is positive and statistically significant (\( \beta = 0.52, p < .01 \)), supporting Hypothesis 1. In terms of economic magnitude, the adoption rate for firms headquartered in states that have legalized gay marriages is 68% higher than that for firms headquartered in states that have not legalized gay marriages (exp(0.52)-1). Hypothesis 2 predicts that the accumulative industry adoptions of CDOs have a positive relationship with focal firms’ adoptions. The coefficient estimate of industry peer adoption is positive and statistically significant (\( \beta = 0.11, p < .001 \)), consistent with Hypothesis 2. In terms of economic magnitude, one unit increase in industry peer adoption is associated with around an 11% increase (exp(0.11)-1) in the focal firm’s adoption rate.

Hypothesis 3 predicts that firm innovation intensity bears a positive relationship with CDO adoptions. The coefficient estimate of innovation intensity is positive and statistically significant (\( \beta = 0.30, p < .01 \)), in line with Hypothesis 3. In terms of economic magnitude, one unit increase in innovation intensity is associated with a 35% increase (exp(0.30)-1) in the focal firm’s adoption rate. Hypothesis 4 predicts that firm diversification levels have a positive relationship with CDO adoptions. The coefficient estimate of diversification is positive and statistically significant (\( \beta = 0.41, p < .05 \)), providing support for Hypothesis 4. In terms of economic magnitude, one unit increase in diversification can increase a firm’s adoption rate by 51% (exp(0.41)-1). Hypothesis 5a predicts a negative relationship between transient investor ownership and CDO adoptions, and Hypothesis 5b suggests a positive relationship between dedicated investor ownership and CDO adoptions. We found statistical support for Hypothesis 5a (\( \beta = -2.07, p < .10 \), two-tailed test) but not for Hypothesis 5b. In terms of economic magnitude, a 10% increase in transient investor ownership can decrease the adoption rate by 19% (exp(-10%*2.07)-1).
### TABLE 1  
**Descriptive statistics**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S.D.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adoption of CDOs</td>
<td>0.02</td>
<td>0.12</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal gay marriage states</td>
<td>0.18</td>
<td>0.39</td>
<td>0.04</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry peer adoption</td>
<td>2.30</td>
<td>3.26</td>
<td>0.10</td>
<td>0.04</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competitive pressures</td>
<td>0.33</td>
<td>0.24</td>
<td>-0.03</td>
<td>-0.06</td>
<td>-0.02</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Innovation intensity</td>
<td>0.04</td>
<td>0.24</td>
<td>-0.01</td>
<td>0.00</td>
<td>0.06</td>
<td>0.05</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diversification levels</td>
<td>0.68</td>
<td>0.80</td>
<td>0.03</td>
<td>0.02</td>
<td>0.20</td>
<td>-0.11</td>
<td>-0.05</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transient investors</td>
<td>0.16</td>
<td>0.10</td>
<td>-0.02</td>
<td>-0.01</td>
<td>0.01</td>
<td>0.00</td>
<td>0.03</td>
<td>0.18</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dedicated investors</td>
<td>0.08</td>
<td>0.09</td>
<td>-0.04</td>
<td>0.01</td>
<td>-0.32</td>
<td>0.05</td>
<td>0.00</td>
<td>-0.35</td>
<td>0.10</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female employment (%)</td>
<td>0.32</td>
<td>0.19</td>
<td>0.03</td>
<td>0.06</td>
<td>-0.01</td>
<td>-0.14</td>
<td>-0.05</td>
<td>-0.03</td>
<td>0.01</td>
<td>-0.03</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American employment (%)</td>
<td>0.12</td>
<td>0.02</td>
<td>0.01</td>
<td>0.04</td>
<td>0.14</td>
<td>-0.01</td>
<td>0.06</td>
<td>0.02</td>
<td>-0.07</td>
<td>-0.02</td>
<td>-0.40</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minority director ratio</td>
<td>0.02</td>
<td>0.04</td>
<td>0.02</td>
<td>0.01</td>
<td>0.08</td>
<td>0.01</td>
<td>0.01</td>
<td>0.04</td>
<td>0.02</td>
<td>-0.06</td>
<td>-0.03</td>
<td>0.07</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female TMT representation</td>
<td>0.17</td>
<td>0.14</td>
<td>0.06</td>
<td>0.08</td>
<td>0.17</td>
<td>-0.05</td>
<td>-0.04</td>
<td>0.20</td>
<td>0.04</td>
<td>-0.16</td>
<td>0.12</td>
<td>0.04</td>
<td>0.08</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm performance</td>
<td>0.04</td>
<td>0.47</td>
<td>0.00</td>
<td>-0.01</td>
<td>0.00</td>
<td>-0.01</td>
<td>-0.08</td>
<td>0.01</td>
<td>-0.01</td>
<td>0.00</td>
<td>-0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm size</td>
<td>8.68</td>
<td>1.61</td>
<td>0.10</td>
<td>0.07</td>
<td>0.18</td>
<td>-0.02</td>
<td>-0.18</td>
<td>0.19</td>
<td>-0.15</td>
<td>-0.15</td>
<td>0.09</td>
<td>-0.05</td>
<td>0.07</td>
<td>0.12</td>
<td>-0.02</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm visibility</td>
<td>0.01</td>
<td>0.03</td>
<td>0.01</td>
<td>0.06</td>
<td>0.04</td>
<td>-0.13</td>
<td>0.06</td>
<td>0.04</td>
<td>-0.03</td>
<td>-0.05</td>
<td>0.03</td>
<td>0.07</td>
<td>0.02</td>
<td>0.09</td>
<td>0.01</td>
<td>-0.03</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absorbed slack</td>
<td>0.64</td>
<td>19.24</td>
<td>0.00</td>
<td>-0.01</td>
<td>-0.01</td>
<td>0.02</td>
<td>0.01</td>
<td>-0.01</td>
<td>0.00</td>
<td>0.00</td>
<td>0.01</td>
<td>-0.01</td>
<td>0.00</td>
<td>0.00</td>
<td>-0.02</td>
<td>0.02</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unabsorbed slack</td>
<td>0.81</td>
<td>0.51</td>
<td>0.01</td>
<td>-0.02</td>
<td>-0.09</td>
<td>0.09</td>
<td>-0.13</td>
<td>-0.01</td>
<td>-0.12</td>
<td>-0.01</td>
<td>0.06</td>
<td>-0.05</td>
<td>0.03</td>
<td>0.03</td>
<td>-0.03</td>
<td>0.29</td>
<td>-0.03</td>
<td>-0.03</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avg TMT age</td>
<td>50.47</td>
<td>3.78</td>
<td>0.04</td>
<td>0.01</td>
<td>0.19</td>
<td>-0.07</td>
<td>-0.06</td>
<td>0.24</td>
<td>-0.04</td>
<td>-0.22</td>
<td>-0.07</td>
<td>0.04</td>
<td>0.08</td>
<td>0.07</td>
<td>0.02</td>
<td>0.26</td>
<td>-0.05</td>
<td>0.00</td>
<td>0.03</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outsider ratio</td>
<td>0.70</td>
<td>0.16</td>
<td>0.05</td>
<td>-0.07</td>
<td>0.31</td>
<td>-0.04</td>
<td>0.00</td>
<td>0.14</td>
<td>0.02</td>
<td>-0.21</td>
<td>-0.14</td>
<td>0.10</td>
<td>0.15</td>
<td>0.19</td>
<td>0.01</td>
<td>0.18</td>
<td>-0.06</td>
<td>-0.02</td>
<td>-0.01</td>
<td>0.14</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>CEO long-term compensation</td>
<td>0.62</td>
<td>0.26</td>
<td>0.06</td>
<td>-0.01</td>
<td>0.27</td>
<td>-0.02</td>
<td>0.03</td>
<td>0.19</td>
<td>0.12</td>
<td>-0.18</td>
<td>-0.02</td>
<td>0.02</td>
<td>0.09</td>
<td>0.11</td>
<td>0.01</td>
<td>0.22</td>
<td>0.00</td>
<td>0.00</td>
<td>-0.02</td>
<td>0.13</td>
<td>0.24</td>
<td>1.00</td>
</tr>
</tbody>
</table>

*The absolute values of correlations larger than .02 are significant at .05 level for two-tailed tests.*
Hypothesis 6a predicts a positive relationship between industry female employment bases and CDO adoptions, and Hypothesis 6b predicts a positive relationship between industry African American employment bases and CDO adoptions. The coefficient estimates for female and African American employment bases are both positive and statistically significant ($p < .001$), supporting Hypotheses 6a and 6b. Specifically, one-unit increase in industry female and African American employment bases can lead to a 5% and 52% increase in the adoption rate, respectively.

Hypothesis 7 predicts that minority director ratio is positively associated with CDO adoptions. The coefficient estimate of minority director ratio is negative and statistically not significant, failing to support Hypothesis 7. Hypothesis 8 predicts a positive relationship between female TMT representation and CDO adoptions. The coefficient estimate for this variable is positive and statistically significant ($\beta = 1.63, p < .01$), supporting Hypothesis 8. In terms of economic magnitude, a 10% increase in female top management representation is associated with an 18% increase in CDO adoption rate ($\exp(1.63 \times 0.10) - 1$).

In Model 3, we standardized all the predictors and then ran a Cox regression to compare the magnitudes of coefficient estimates of all the predictors. With respect to the two institutional theory predictors, we find that the coefficient estimate of legalized gay marriage states is smaller than that of industry peer adoption ($\beta = 0.20$ vs. $\beta = 0.37$). In addition, among all the predictors related to resource dependence theory, African American employment bases prove to be the most powerful ($\beta = 1.03$), which is followed by female employment bases ($\beta = 0.91$), diversification levels ($\beta = 0.33$), and transient investor ownership ($\beta = -0.20$). With respect to the two upper echelons predictors, the magnitude of female TMT representation is larger than that of minority board ratio ($\beta = 0.23$ vs. $\beta = -0.04$).

### 4 | DISCUSSION AND CONCLUSION

In an attempt to explain factors driving firms' CDO adoptions, we have synthesized three theoretical perspectives on new practice adoptions to present an integrated model that can offer a more comprehensive insight into the presence of new CDOs, a rising and important category of functional senior management team members. Our findings show that an integrated framework that synthesizes institutional, resource dependence, and upper echelons perspectives can provide a more comprehensive insight into CDO adoptions among S&P 500 firms.

#### 4.1 | Findings and Implications

Our findings lend support to most of the theoretical arguments raised in this paper, and their general pattern offers insights into the antecedents of adoptions of new functional senior management positions. From an institutional perspective, states that have legalized gay marriage are more likely to impose coercive pressures on firms in such states to invest in workforce diversity and to adopt CDO positions. We also found a significant impact of accumulative industry adoptions of CDOs on a focal firm's adoption, in line with previous research on the impact of mimetic pressures on the adoptions of TQM programs (Westphal, Gulati, & Shortell, 1997), substance abuse prevention programs (Spell & Blum, 2005), and same-sex partner

---

**TABLE 2** Cox event-history models for CDO adoptions with robust standard errors

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control variables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm performance</td>
<td>0.05</td>
<td>0.05</td>
<td>0.02</td>
</tr>
<tr>
<td>(0.036)</td>
<td>(0.052)</td>
<td>(0.024)</td>
<td></td>
</tr>
<tr>
<td>Firm size</td>
<td>0.41***</td>
<td>0.37***</td>
<td>0.59***</td>
</tr>
<tr>
<td>(0.051)</td>
<td>(0.062)</td>
<td>(0.099)</td>
<td></td>
</tr>
<tr>
<td>Firm visibility</td>
<td>2.96</td>
<td>-0.76</td>
<td>-0.03</td>
</tr>
<tr>
<td>(2.419)</td>
<td>(2.832)</td>
<td>(0.096)</td>
<td></td>
</tr>
<tr>
<td>Absorbed slack</td>
<td>-0.03</td>
<td>-0.01</td>
<td>-0.22</td>
</tr>
<tr>
<td>(0.061)</td>
<td>(0.104)</td>
<td>(2.003)</td>
<td></td>
</tr>
<tr>
<td>Unabsorbed slack</td>
<td>-0.02</td>
<td>0.03</td>
<td>0.01</td>
</tr>
<tr>
<td>(0.191)</td>
<td>(0.187)</td>
<td>(0.096)</td>
<td></td>
</tr>
<tr>
<td>Average TMT age</td>
<td>-0.01</td>
<td>-0.01</td>
<td>-0.02</td>
</tr>
<tr>
<td>(0.021)</td>
<td>(0.023)</td>
<td>(0.086)</td>
<td></td>
</tr>
<tr>
<td>Outside ratio</td>
<td>0.86</td>
<td>0.78</td>
<td>0.12</td>
</tr>
<tr>
<td>(0.688)</td>
<td>(0.706)</td>
<td>(0.111)</td>
<td></td>
</tr>
<tr>
<td>CEO long-term compensation</td>
<td>1.07*</td>
<td>0.97*</td>
<td>0.25*</td>
</tr>
<tr>
<td>(0.470)</td>
<td>(0.456)</td>
<td>(0.117)</td>
<td></td>
</tr>
<tr>
<td>Competitive pressures</td>
<td>-1.05**</td>
<td>-0.83*</td>
<td>-0.20*</td>
</tr>
<tr>
<td>(0.380)</td>
<td>(0.413)</td>
<td>(0.098)</td>
<td></td>
</tr>
<tr>
<td>Institutional theory variables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legalized gay marriage states</td>
<td>0.52**</td>
<td>0.20**</td>
<td></td>
</tr>
<tr>
<td>(0.183)</td>
<td>(0.071)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry peer adoption</td>
<td>0.11***</td>
<td>0.37***</td>
<td></td>
</tr>
<tr>
<td>(0.030)</td>
<td>(0.098)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resource dependence variables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Innovation intensity</td>
<td>0.30**</td>
<td>0.07**</td>
<td></td>
</tr>
<tr>
<td>(0.110)</td>
<td>(0.026)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diversification</td>
<td>0.41*</td>
<td>0.33*</td>
<td></td>
</tr>
<tr>
<td>(0.181)</td>
<td>(0.146)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transient investors</td>
<td>-2.07+</td>
<td>-0.20+</td>
<td></td>
</tr>
<tr>
<td>(1.236)</td>
<td>(0.122)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dedicated investors</td>
<td>0.16</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>(1.341)</td>
<td>(0.118)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female employment</td>
<td>0.05***</td>
<td>0.91***</td>
<td></td>
</tr>
<tr>
<td>(0.013)</td>
<td>(0.248)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American employment</td>
<td>0.42***</td>
<td>1.03***</td>
<td></td>
</tr>
<tr>
<td>(0.123)</td>
<td>(0.302)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper echelons variables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minority director ratio</td>
<td>-0.91</td>
<td>-0.04</td>
<td></td>
</tr>
<tr>
<td>(1.974)</td>
<td>(0.083)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female TMT representation</td>
<td>1.63**</td>
<td>0.23**</td>
<td></td>
</tr>
<tr>
<td>(0.531)</td>
<td>(0.074)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Events</td>
<td>190</td>
<td>190</td>
<td>190</td>
</tr>
<tr>
<td>Chi-squared</td>
<td>112.9</td>
<td>147.7</td>
<td>147.7</td>
</tr>
<tr>
<td>Log-likelihood</td>
<td>-874.2</td>
<td>-845.4</td>
<td>-845.4</td>
</tr>
</tbody>
</table>

Note: + $p < .1$; * $p < .05$; ** $p < .01$; *** $p < .001$. Two-tailed tests. Robust standard errors in parentheses.
health benefits (Chuang et al., 2011). These results suggest that legitimacy-seeking motives are an important driver behind the rise in CDO positions.

At the same time, the outcomes of our analyses based on resource dependence explanations of CDO adoptions suggest that new practice adoptions are not merely an outcome of organizations’ passive conformity to isomorphic pressures but also result from organizations’ endeavors to manage and manipulate interdependencies with important stakeholders. Our results show that CDO adoptions are more likely to occur when firms find it more important to retain a diverse workforce and attain support from key stakeholders (reflected by female and African American employment bases, innovation intensity, diversification levels, and transient investor ownership). These findings lend support to existing research that emphasizes the significance of efficiency-seeking motives on the incidence of new functional top management team members (e.g., Hambrick & Cannella, 2004; Menz & Scheef, 2014; Nath & Mahajan, 2008).

However, while efficiency and legitimacy are crucial motives for structural change, it is also important to examine how forces within the firm shape its structure. Our results offer evidence that top managers can exercise their power to influence a change in the organizational structure by adding a new senior management position. In keeping with the idea that top executives’ gender may affect how they process information and make decisions, we found a strong effect of female TMT representation on firms’ likelihood of adopting CDOs. This finding also supports the argument that female leaders are more likely to embrace workforce diversity (Dobbin et al., 2011). These results lend further support to recent calls for highlighting the role of organizational leaders in the process of institutional changes (Kraatz & Moore, 2002; Sanders & Tuschke, 2007; Scott, 2001).

Our research points to the importance of recognizing that firms have a variety of considerations as they make important decisions such as changes in their organizational structure. It not only contributes to the literature on adoption of new functional senior managers but also provides guidance to firms on internal and external factors that they should take into account while making the decision whether or not to incorporate a CDO position. Moreover, this study adds to the workforce diversity literature, particularly research on antecedents to workplace diversity management practices (e.g., Yang & Konrad, 2011). Compared with the adoption of specific diversity programs, the adoption of CDOs requires focal firms’ substantial resource commitments. Therefore, by unpacking antecedents to CDO adoptions, we are able to gain an in-depth insight into what factors drive firms’ differential investment in workforce diversity.

We found that the coefficient estimate of minority board ratio was contrary to our prediction. We argued that boards with a high ratio of minority directors are more likely to be recognizing of the benefits of workforce diversity (Simons, Pelled, & Smith, 1999) and to adopt CDO positions. However, we found that the coefficient estimate of board racial diversity was negative. It is possible that the negative relationship arises from the substituting effect between CDO positions and appointments of minority directors. For firms with a high minority board ratio, they have already paid great attention to workforce diversity and there is less need to adopt CDOs.

Our findings have important implications for new practice adoption research. Prior new practice adoption research has mostly relied on a single theoretical lens to explain why organizations adopt new practices. Our findings indicate that the motivations of adopting new practices can be more complicated than what a single theoretical framework can address. Adopting a multitheoretic approach may provide a greater insight into why organizations adopt new practices. Novel functional TMT positions and other organizational practice adoptions can be accounted for not only through efficiency explanations but also because legitimacy becomes a compelling motive, or because the firm’s leaders are passionate about the values connected to such adoptions. Our emphasis on CDO adoptions is also relevant for diversity researchers, who have often focused on cataloging various organizational measures that support greater diversity (Ali, Metz, & Kulik, 2015; Delery, 1998; Konrad & Linnehan, 1995; Ng & Sears, 2012). While individual practices are important, this research suggests that firms that have a CDO are more likely to value diversity as a strategic asset, given that functional representation indicates functional importance (Chaganti & Sambharya, 1987; Nath & Mahajan, 2008).

Given that the tangible benefits of a strong diversity management function can go beyond organizations to society at large, it is relevant for policy makers to understand what factors matter in firms’ investments in improving organizational diversity. A powerful CDO would be able to leverage diversity as an integral part of the organization’s overall strategy—not only motivating employees but also energizing the firm’s leaders and ensuring good stakeholder relationships with regulators, investors, customers, suppliers, and other organizational partners. However, firms may adopt CDOs simply for impression management, which can result in a waste of firm resources. More attention is needed to examine what factors lead firms to adopt CDOs for pure symbolic reasons instead of real substance.

This research has some limitations, which also suggest directions for future research. Our research is rather exploratory, giving rise to more questions. Although adoption of the CDO role has the potential to revolutionize diversity management and propel it to a core position in the company’s strategy, we do not study the consequences of CDO adoptions. Can CDO adoptions improve employees’ job satisfaction and help attract talents with diverse backgrounds? Future work might use a matched sampling approach to see if the CDO has an effect relative to those organizations in similar situations that have no CDO. Moreover, diversity can be of several types in addition to race, gender, and sexual orientation (Horwitz & Horwitz, 2007)—such as diversity in age, religion, national origin, functional background, educational background, and other personal characteristics. It would be valuable to examine how CDOs are able to balance and leverage the coexistence of different types of diversity.

4.2 | Conclusion

We have shown that the diffusion of CDO positions among S&P 500 firms is subject not only to institutional but also to resource dependence and upper echelons factors. Firms do not passively conform to institutional isomorphic pressures but proactively take
strategic actions to manage their relationships with key stakeholders to attain legitimacy and resources. In addition, attributes of top executives also exert a salient influence on firms’ adoptions of new practices. We believe that an integrative theoretical perspective as proposed in this study can provide a more comprehensive insight into new practice diffusion research.

ACKNOWLEDGMENTS

This research is supported by Renmin University of China: the special developing and guiding fund for building world-class universities (disciplines), Project No. 16XNKIO08.

We would also like to acknowledge the help of Mr. Xinglin Pan (Master Candidate at Tsinghua University, Visiting Scholar and Graduate PEACE Fellow at University of Pennsylvania) in the process of data collection.

REFERENCES


SEEMANTINI PATHAK is an Assistant Professor of Management at the College of Business Administration at the University of Missouri–St. Louis. Her research interests include corporate governance in the context of strategic change, composition of the firm’s board of directors, strategic human capital, and absorptive capacity.

LYNDA JIWEN SONG is an Associate Professor of Organizational Behavior at the School of Business, Renmin University of China. She received her PhD in organizational management from the Hong Kong University of Science and Technology. Her research interests include leadership, employment relationship, creativity, emotional intelligence, and diversity.

ROBERT E. HOSKisson holds the George R. Brown Chair of Strategic Management at the Jones Graduate School of Business at Rice University. His research focuses on corporate and international diversification strategies, corporate governance, innovation and entrepreneurship, acquisitions and divestitures, business groups and strategies of emerging-economy firms, and cooperative strategy.


AUTHOR’S BIOGRAPHIES

WEI SHI is an Assistant Professor of Management at Kelley School of Business, Indiana University. He received his doctorate in Strategic Management from Rice University. His research interests are corporate governance, upper echelons, and corporate strategy.